

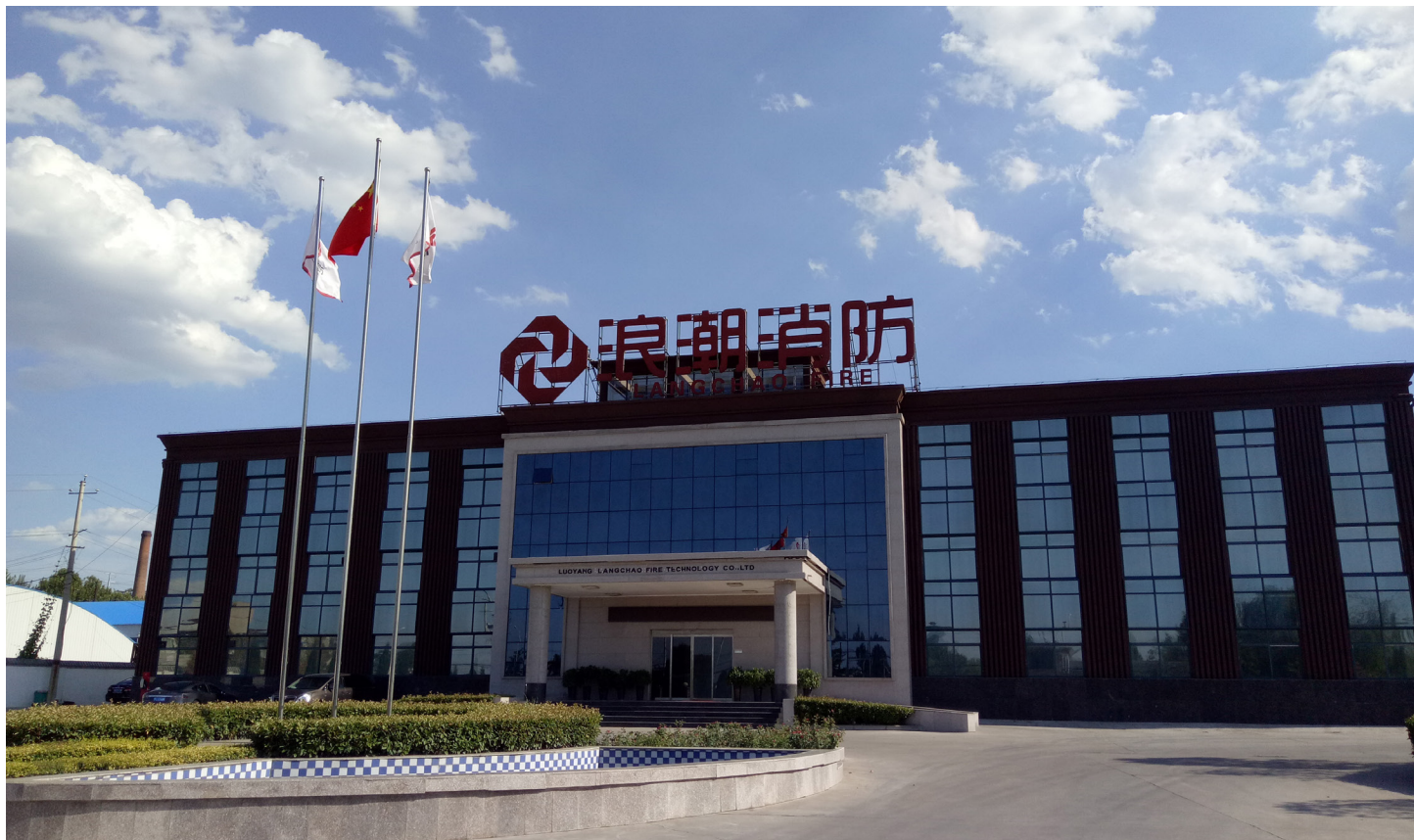


CATALOG

FIRE-FIGHTING FOAM EXTINGUISHING AGENT

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
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WHO WE ARE



We, LANGCHAO FIRE, with more than 60 years experience in manufacturing and developing fire extinguishing foam agents, serves global clients of the world and provides safe and reliable fire extinguishing agents products and solutions. Our factory has a well-developed and strict production process to ensure that the quality of foam products meet international approvals like EN1568 Part 3, ICAO Level B, CCS, MED, and also UL listing in process. The plants has passed ISO9001, ISO14001 and OHSAS18001 certification.



CERTIFICATES



中国船级社
CHINA CLASSIFICATION SOCIETY
工厂认证
CERTIFICATE OF APPROVAL

兹证明本证书所列制造厂具备按照下列标准的要求生产本证书
This is to certify that the manufacturer stated in the certificate meets with the ability and conditions to produce the products described

制造厂/Manufacturer: **洛阳市浪潮消防**
Luoyang Langchao Fire Technology Co., Ltd.

地址/Address: **洛阳市老城区**
No.3 building of Nangang

产品名称/Product: **天**
Extinguishers
低泡泡沫灭火剂
Low-Expansion Foam Fire-Extinguishing Medium

认可标准/Approval Standard

- MSC.1/Circ.1312 《经修订的固定式灭火系统泡沫灭火剂性能标准》
MSC.1/Circ.1312 Revised Guidelines for the Performance of Fire-Extinguishing Systems
- 经 MSC.327(90) 修正的《国际消防安全系统规则》第 6 章
Chapter 6 of International Code of Fire Safety Systems, as amended by MSC.327(90)
- 经 MSC.339(91) 修正的《国际消防安全系统规则》第 14 章
Chapter 14 of International Code of Fire Safety Systems, as amended by MSC.339(91)
- MSC/Circ.670 《固定式灭火系统泡沫液性能、试验方法和试验指南》
MSC/Circ.670 Guidelines for the Performance and Testing of Fixed Fire-Extinguishing Systems

用于/Intended for: **船舶与岸上设施/ Ships and offshore installations**

产品描述/Product Description

名称/Name	属性(值)/Value
型号/Type	详见附录/See appendix
混合比/Mixing Ratio	详见附录/See appendix
发泡倍数/Foam Expansion	详见附录/See appendix

证书有效期至/This Certificate is valid until: **2025-03-26**

发证机构: **中国船级社武汉分公司**
Issued by: **CSC Wuhan Branch**

第 1 页共 3 页/ Page 1 of 3
N° 21766878

Certificate - Сертификат - 證書 - 증명서 - شهادة

Certificate of Approval

No. 0P200327.LFDD96
Technical Construction File no. TGM200327

Certificate's Holder: **Luoyang Langchao Fire Technology Co., Ltd.**

Certification ECM Mark: 

Product: **天**
Model(s): **Extinguishers**

Verification to: **Star EN15620**

Remark: This document has been issued on our opinion that the technical document requirements of the ECM regulation are fulfilled accordingly to the ECM regulation about fire extinguishers. Additional information and clarification about the ECM regulation can be found in the technical document.

CE The manufacturer is responsible for the issuance of this certificate on the basis of products. RG01, ECM F

Issuance date: 27 March 2020
Expiry date: 26 March 2025

Reviewer: **Technical expert Amanda Poynt**

RINA Services S.p.A.
Via Cimola, 12 - 40139 Genova
Tel. +39 010 538511
Fax +39 010 5385100

Ente Certificazione
Via Ca' Bella, 243 - Loc. Castello di Serravalle - 40053 Valsamoggia (BO) - ITALY
☎ +39 051 6705141 ☎ +39 051 6705156 ✉ info@entecema.it www.entecema.it

RINA EC TYPE EXAMINATION CERTIFICATE

This is to certify that RINA Services S.p.A. (a type approval procedures for the equipment used with the Fire Protection requirements of Machinery Rules including the requirements and testing conditions)

MED Item N°	MED 3.58
Description	Fixed low expansion components for AFFF3%
Type Applicant	Luoyang Langchao Fire Technology Co., Ltd.
Testing standards	IMO MSC.1/Circ.1312 SOLAS 74 Reg. II-2 Res.MSC.98(73) MSC.1/Circ.1276.

Issued in SHANGHAI on November 15, 2021

This Certificate consists of this sheet plus an attachment

RINA Services S.p.A.
Via Cimola, 12 - 40139 Genova
Tel. +39 010 538511
Fax +39 010 5385100

GRUPE CNPP
Département Feu et Environnement
Route de La Chapelle Réaumur
CD 84 - CS 22285
F 27050 SAINT MARCEL
Tel. 33 (0)2 32 53 64 33
Fax. 33 (0)2 32 53 64 68

CNPP
Prévention et maîtrise des risques

TEST REPORT N°PN 17 10724-2 English version

Performance ICAO level B.

DATE: Saint Marcel, the 12nd June 2017

CUSTOMER: **Luoyang Langchao Fire Technology CO., LTD**
No 119, Longgu Road, Yibin High-Tech Industrial Park
LUOYANG CITY
HENAN PROVINCE
CHINA

FOAM CONCENTRATE TESTED: **AFFF 3**
at the concentration of 3% in foaming solution with potable water.

CONCLUSION: **The foam concentrate satisfied the requirement of "ICAO fire tests" as defined in the Manual of Airport Services, part 1, chapter 8, for ICAO performance level B.**

DATE OF THE TESTS: 6th to 12nd June 2017

The present test report contains: **4 pages**

This document gives evidence only of characteristics of the service subjected to the tests carried out or controlled by the laboratory and does not purport to certify the characteristics of similar products. It does not constitute a verification of products in the sense of the article L.151-27 of the code of the consumption, or an approval whatever nature it is. The reproduction of this document is not authorized without the prior approval of CNPP. Only order to complete form: CNPP retains any responsibility in case of reproduction or non corresponding publication. CNPP reserves the right to use the information which result from the present document to include them in works of synthesis or general interest. The envisaged works which can be published by its care.

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Siège Social : CS 22285 - F 27050 SAINT-MARCEL - N° formateur 2327003927

CERTIFICATE OF REGISTRATION

Part of the Cotecna Group
Kaixin Certification (Beijing) Co., Ltd.

Registration No.: 06919E20333R1M

This is to certify that

Luoyang Langchao Fire Technology Co., Ltd.

Unified Social Credit Code: 9141030071152944M

Registration Address: No.208, Jiu China.
Business Address: No.119, Longgu Road, Yibin District, Luoyang, 471935, China.

The management system is in conformity with

GB/T 19001-2016/ISO 9001:2015
Scope: Development of Equipment and Pharmacy (Foam Extinguishing Agent) within Qualification Scope in Luoyang Langchao Fire Technology Co., Ltd. Yibin Branch

Reissue Date: 2020-08-14
Term of Validity: 2022-06-01
First Issue Date: 2016-06-03

NOTE: The certified organization must accept the surveillance audit duty, and the audit shall be approved of effective before approving that this certificate can maintain as valid. On and before 2020-06-12, this certificate shall be used together with notice of maintaining certification and registration.

NOTE 2: Recertification audit date: from 2019-05-24 to 2019-05-26
NOTE 3: Expiry date of original certificate: 2019-06-02

ISO 9001
COTECNA

MEMBER OF IATF ACCREDITED AREA

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This is to certify that

Luoyang Langchao Fire Technology Co., Ltd.

Unified Social Credit Code: 9141030071152944M

Registration Address: No.208, Jiu China.
Business Address: No.119, Longgu Road, Yibin District, Luoyang, 471935, China.

The management system is in conformity with

GB/T 45001-2020/ISO 45001:2018
Scope: Development of Pharmacy (Foam Extinguishing Agent) within Qualification Scope in Luoyang Langchao Fire Technology Co., Ltd. Yibin Branch

Reissue Date: 2020-08-14
Term of Validity: 2022-06-01
First Issue Date: 2016-06-03

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ISO 45001
COTECNA

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Luoyang Langchao Fire Technology Co., Ltd.

Unified Social Credit Code: 9141030071152944M

Registration Address: No.208, Jiu China.
Business Address: No.119, Longgu Road, Yibin District, Luoyang, 471935, China.

The management system is in conformity with

GB/T 24001-2016/ISO 14001:2015
Scope: Development of Fire Pharmacy; Production of Fire Pharmacy (Foam Extinguishing Agent) within Qualification Scope in Luoyang Langchao Fire Technology Co., Ltd. Yibin Branch

Reissue Date: 2020-08-14
Term of Validity: 2022-06-01
First Issue Date: 2016-06-03

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NOTE 3: Expiry date of original certificate: 2019-06-02

ISO 14001
COTECNA



DESCRIPTION

- AFFF 3% is an aqueous film forming foam concentrate (AFFF) consisting of a blend of fluorocarbon-, hydrocarbon surfactants and various solvents and stabilisers. Only C6 Pure fluorosurfactants are used in AFFF-formulations. LCF-AFFF 3% utilises the unique film forming effect to cut off oxygen supply to the fire and the oleophobic properties of the foam enables a stable foam blanket to suppress reignition of the fire.

PRODUCT DETAILS

TECHNICAL DATA

Items	Standard		
Proportioning rate	AFFF 1%	AFFF 3%	AFFF 6%
Appearance ⁰ c	Light yellowish liquid		
PH value at 20	6.0-9.5		
Freezing point	-300 ⁰ c adjustable	-100 ⁰ c adjustable	-120 ⁰ c adjustable
Surface tension(mN/m)	17.2+/-10%	17.1+/-10%	17.2+/-10%
Interfacial tension(mN/m)	2.8 +/-1.0	2.4 +/-1.0	2.4 +/-1.0
Foam Expansion at 200c	6.5 +/-1.0 or 20%	6.4 +/-1.0 or 20%	6.1 +/-1.0 or 20%
25% Drainage Time at 200c(min)	1.9 +/- 20%	2.9 +/- 20%	3.0 +/- 20%
Extinguishi Time (min)	≤3.0	≤3.0	≤3.0
25% Fire-Resistance Time (min)	≥10.0	≥10.0	≥10.0
Shelf life	10 years		
Approval	EN1568 Part 3, ICAO Level B, CCS, IMO MSC.1/Circ1312		
Packing	20/25kg can, 200kg drum, 1000kg IBC tank		

APPLICATION

Class B fires of hydrocarbon fuel
 Oil field and oil depots, coal mines, large chemical plant, airports and marine ships;
 Storage tanks (non-polar solvent type only);
 Flammable liquid containment areas (non-polar solvent only);
 Truck/rail loading or unloading facilities;
 Processing/storage facilities;
 Docks/marine tankers;
 Crash Fire Rescue.



DESCRIPTION



- This product is made of foaming agent, stabilizer, microbial polysaccharide and fluorocarbon surfactant, etc., which is used to fight fires of combustible polar solvents such as alcohols, esters, ethers, ketones, etc., and can also fight general oil fires.

PRODUCT DETAILS

TECHNICAL DATA

Items	Standard
Proportioning rate	3% 6%
Appearance	Light yellow transparent liquid
PH Value at	6.0-9.5
Specific gravity at 20 ⁰ c	1.08 +/- 0.04
Freezing point	minus 15 ⁰ c(adjustable accordingly)
Foam Expansion	6.7 +/- 1.0
25% Drainage Time	6 min +/- 20%
Extinguishing Time	≤3.0 min
25% Fire-Resistance Time (min)	≥10.0
Shelf life	2 years
Approval	EN1568 Part 3 CCS
Packing	20/25kg can, 200kg drum, 1000kg IBC tank

APPLICATION

Suitable for a variety of low multiplier foam generator.

Applied for the production and storage of alcohol, ester, ether, ketone, organic acid and other water-soluble combustible, flammable liquid fire fighting and prevention, such as: large chemical plants, wineries, chemical warehouses, shipping.



DESCRIPTION

- An alcohol resistant film forming foam concentrate (AR-AFFF) consisting of a blend of fluorocarbon-, hydrocarbon surfactants and polymers, various solvents and stabilisers. All AR-AFFF foam concentrates are formulated with 100% C6 Pure fluoro-surfactants and fluoro-polymers. On hydrocarbon fuels, AR-AFFF 3x6 utilises the unique film forming effect to cut off oxygen supply to the fire and the oleophobic properties of the foam enables a stable foam blanket to prevent reignition of the fire. With polar fuels, a polymeric membrane is formed that suppresses vapours and allows the foam blanket to survive on the water miscible fuel surface.

PRODUCT DETAILS

TECHNICAL DATA

Items	Standard
Proportioning rate	3% 6%
Appearance	light yellowish liquid
PH Value at 20°C	6.0-9.5
Freezing point	-5°C (adjustable)
Surface tension(mN/m)	≤25 mN/m
Foam Expansion at 20°C	7x(1±20%)
25% Drainage Time at 20°C	≥2.5 Min
Extinguishing Time	≤3.0 min
25% Fire-Resistance Time	≥10.0 min
Shelf life	10 years
Packing	20/25kg can, 200kg drum, 1000kg IBC tank

APPLICATION

Application: Class B fires of hydrocarbon and polar solvent fuel. It is typically applied to refineries, petrochemical storage facilities, offshore installations etc.

Description: (AR-AFFF) foam concentrates are ideal for extinguishing and securing flammable hydrocarbon and polar solvent liquid fires. AR-AFFF 3% (3 parts concentrate with 97 parts water) AR-AFFF 6% (6 parts concentrate with 94 parts water).



DESCRIPTION

- Class A foam or also known as “wild fire foam” and “wetting agent”. Intended for use against Class A fires such as wood, paper, textiles or rubber. Class A foams are blend of surfactants that enable strong wetting and foaming properties. Class A foams are often intended for use at very low concentration of 0,1 to 1%, and are formulated using environmentally favorable raw materials. In most cases Class A foams are fluorine free foams as well.

PRODUCT DETAILS

TECHNICAL DATA

Proportioning rate	0.3%-3%	
Appearance	Lighting yellowish liquid	
PH Value at 20 ^o c	6.0-9.5	
Specific gravity at 20 ^o c	1.1 +/- 0.01 g/ml	
Freezing point	-22 ^o c	
Surface tension (mN/m)	≤ 30.0	
Wetting	≤20.0S	1%
25% Drainage Time at 20 ^o c	Foam expansion 27 +/- 20%; 25%	0.50%
	Drainage Time: 11.4min +/- 30%	
Insulation performance	Foam expansion ≥ 30	3%
	25% Drainage Time ≥ 20.0min	
Extinguishing performance for Class A fire	Foam expansion 27 +/- 20%	0.50%
	Extinguishing time ≤ 90.0s	
	Fire-Resistance Time ≥10.0min	
Addional request	Foam expansion 27 +/- 20% 25%	0.50%
	Drainage Time: 10min +/- 30%	
	Foam expansion 27 +/- 20%	0.50%
	Extinguishing time ≥IID	
Shelf life	3 years	
Approval	EN1568 Part 3	
Packing	20/25kg can, 200kg drum, 1000kg IBC tank	

APPLICATION

Recommended Proportioning Ratio:

Helicopter Bucket 0.3%-0.5%

Aspirating nozzle 0.3%-0.5%

Non-aspirating nozzle 0.3%-0.6%

Compressed air foam system(CAFS)0.1%-0.6%

Aspirated foam on small class B fires 1%-3%.



DESCRIPTION

- F-500 is the newest generation of the most complete, high efficient and environment-friendly fire extinguishing agents. It is an idea complex replacing kinds of water-borne agents, like aqueous film, alcohol resistance and etc., which demonstrates outstanding performance to extinguish fires of wood, paper, cotton, dry grass, coal, rubber, non-polar liquids(gasoline, crude oil), polar liquids(ethanol, methanol) and chemical raw materials. The proportion 1% is perfect for Class A fires, 3% for hydrocarbon fires and 6% for polar solvent liquid fires, which fills out the blank of fire extinguishing technology in China. It adopts advantaged micro encapsulator technology to efficiently extinguish fires and control the spill of hazards and dangerous odor emanating, demonstrating outstanding performance of rapid extinguishing, instant cooling, afterburning prevention, obvious heat insulation, smoke eliminating and etc..

PRODUCT DETAILS

TECHNICAL DATA

Proportioning rate	1% 3% 6%
Appearance	Standard
Specific gravity at 20°C	light yellowish liquid
Surface tension	≤30
PH Value at 20°C	6.0-9.5
Freezing point	≤-5.0 °C
Recommended storage temperature	-5 to -45°C
Foam Expansion at 20°C	≥5 (3%)
	≥6 (6%)
25% Drainage time at 20°C	≥2.5 (3%)
	≥3.5 (6%)
Extinguishing time	Class A ≤90s
	Non-polar ≤3 min
	Polar 5 ≤min
25% Fire-Resistance Time	10.0 min
Shelf life	15 years
Packing	20/25kg can, 200kg drum, 1000kg IBC tank

APPLICATION

1% for class A type fires, 3% for hydrocarbon fires, 6% for polar solvent fires and metal fires.



DESCRIPTION



- A superior high expansion foam concentrate for use in any High expansion system. It is consisting of hydrocarbon surfactants blended with various solvents and stabilizers. It does not contain any fluorinated surfactants or polymers (PFAS) or other organohalogens. HEF should be used at 2-3% concentration in fresh or sea water if medium or high expansion foams are required depending on equipment used.

PRODUCT DETAILS

TECHNICAL DATA

Items	Standard
Proportioning rate	3% 6%
Apperance	Clear pink liquid
PH Value at 20 ⁰ c	6.0-9.5
Specific gravity at 20 ⁰ c	1.04 ±0.01g/ml
Freezing point	-14 ⁰ c (adjustable)
Liquidity at 20 ⁰ c	≤25 mN/m
Sediment volume %	before aging ≤0.25 can pass 180µm
	after aging ≤1 can pass 180 µm
Foam Expansion	≥201
50% Drainage Time 20 ⁰ c	13 min ±20%
Extinguishing Time	≤150s
Shelf life	3 years
Approval	EN1568 Part 3
Packing	20/25kg can, 200kg drum, 1000kg IBC tank

APPLICATION

Expand ratios:

from 200:1 to 1000:1

Application:

Good performance for the fire in the limited space Large aircraft hangar underground tunnel underground oil depot underground garage and coal mine ship chemical warehouses.



DESCRIPTION



- This product is made from animal protein and used to put out the fires, like ones of water-insoluble flammable liquid and general solid with stable foam, excellent burning resistance and great coverage ability.

PRODUCT DETAILS

TECHNICAL DATA

Items	Standard	
Proportioning rate	P3%	P6%
Appearance	Dark brown liquid	
PH Value at 20°C	6.0-9.5	
Freezing point	-20°C (adjustable)	-10°C (adjustable)
Sediments	≤0.25	
Foam Expansion at 20°C	5.5±1.0 or 20%	5.3±1.0 or 20%
25% Drainage Time at 20°C (min)	4.8±20%	4.5±20%
Extinguishing time (min)	≤5.0	
25% Fire-Resistance Time (min)	≥15.0	
Shelf life	2 years	
Approval	EN1568 Part 3 CCS	
Packing	20/25kg can, 200kg drum, 1000kg IBC tank	

APPLICATION

Application:

Class B fires of hydrocarbon fuel.

Description:

This product is made from animal protein. It is biodegradable and environmental. P3% (3 parts concentrate with 97 parts water) P6% (6 parts concentrate with 94 parts water).



DESCRIPTION



- S-3/6 AB agent is made of wetting agent, flame retardant, surfactant, penetrant, antifreeze, etc. It is suitable for filling water-based fire extinguishers, and can also be used for various water-based fire extinguishing systems. This product is highly efficient, environmentally friendly and 100% biodegradable.

PRODUCT DETAILS

TECHNICAL DATA

Items	Technical standard	
Proportioning rate	3% 6% 100%	
Freezing point	Mixture	Basic type ≤-10°C
Antifreeze, meltability	No visible stratification and heterogeneity	
PH Value	6.0-9.5	
Surface Tension mN/m	Standard ±10%	
Toxicity	Fish mortality is not greater than 50%	
Extinguishing class A fire performance	≥1A	
Extinguishing class B fire performance	≥55B	
Shelf life	2 years	
Approval	EN1568 Part 3 CCS	
Packing	20/25kg can, 200kg drum, 1000kg IBC tank	

APPLICATION

Application:

Industrial and mining enterprises, office buildings, fire engines, airport terminals, gas stations, oil tankers, oil fields, oil refineries and other occasions.

Description:

This product is made of wetting agent, flame retardant, surfactant, penetrant, antifreeze, etc. It is suitable for filling water-based fire extinguishers, and can also be used for various water-based fire extinguishing systems. This product is highly efficient, environmentally friendly and 100% biodegradable.



DESCRIPTION

- An alcohol resistant fluoro-protein foam concentrate (FP-AR) consisting of hydrolysed protein hydrolysate and a blend of fluorocarbon-, hydrocarbon surfactants and polymers, various solvents and stabilisers. AR-FP foam concentrates are formulated with 100% C6 Pure fluoro-surfactants and fluoro-polymers. On hydrocarbon fuels, AR-FP 3% forms a foam blanket to cut off oxygen supply to the fire and the oleophobic properties of the foam enables a stable foam blanket to prevent reignition of the fire. With polar fuels, the special fluoro-polymer forms a stable barrier that suppresses vapours and allows the foam blanket to survive on the water miscible fuel surface.

PRODUCT DETAILS		
TECHNICAL DATA		
Items	Standard	
Proportioning rate	AR-FP 3%	AR-FP 6%
Appearance	Dark brown liquid	
PH Value at 20°C	6.0-9.5	
Freezing point	-14°C (adjustable)	-10°C (adjustable)
Sediment	≤0.25	
Foam Expansion at 20°C	6.4±1 or 20%	7.7±1 or 20%
25% Drainage Time at 20°C (min)	5.6±20%	7.2±20%
Extinguishing time (min)	≤4.0	≤3.0
25% Fire-Resistance Time (min)	≥10.0	
Shelf life	2 years	
Approval	EN1568 Part 3 CCS	
Packing	20/25kg can, 200kg drum, 1000kg IBC tank	

APPLICATION

Application:

Class B fires of hydrocarbon and polar solvent fuel..This extinguishing agent is widely used in initial fire protection and extinguishing fires in large chemical plants,airports,wineries,chemical storerooms,oil depots and shipping venues in which flammable liquid produced or stored.Its performance is superior to protein foam and fluoroprotein foam.



DESCRIPTION



- This product takes protein foam extinguishant as basic materials, with proper fluoro-carbon surfactant added. It is available to put out large grade fire of oil-tanks by subsurface-injection way also can be mixed with dry powder extinguishing agent to get better effect.

PRODUCT DETAILS		
TECHNICAL DATA		
Items	Standard	
Proportioning rate	FP3%	FP6%
Appearance	Dark brown liquid	
PH Value at 20 ^o c	6.0-9.5	
Freezing Point	-20 ^o c (adjustable)	-10 ^o c (adjustable)
Sediments	≤0.25	
Foam Expansion at 20 ^o c (min)	5.5±1.0 or 20%	5.4±1.0 or 20%
25% Drainage Time at 20 ^o c (min)	4.8±20%	4.73 ±20%
Extinguishing time (min)	≤4.0	
25% Fire-Resistance Time (min)	≥10.0	
Shelf life	2 years	
Approval	EN1568 Part 3 CCS	
Packing	20/25kg can, 200kg drum, 1000kg IBC tank	

APPLICATION

Application:

Class B fires of hydrocarbon fuel. Description: It takes protein foam as basic material, with proper fluoro-carbon surfactant added. FP3% (3 parts concentrate with 97 parts water) FP6% (6 parts concentrate with 94 parts water).



DESCRIPTION



- Film forming fluoro-protein foam concentrate (FFFP) consisting of hydrolysed protein and a blend of fluorocarbon-, hydrocarbon surfactants and various solvents and stabilisers. Only C6 Pure fluoro-surfactants are used in FFFP-formulations. FFFP 3% utilises the unique film forming effect to cut of oxygen supple to the fire and the oleophobic properties of the foam enables a stable foam blanket to suppress reignition of the fire.

PRODUCT DETAILS

TECHNICAL DATA

Items	Standard
Proportioning rate	3% 6%
Appearance	Dark brown liquid
PH Value at 20 ^o c	6.0-9.5
Freezing point	-8 ^o c ± ^o c4 (adjustable)
Surface tension mN/m	17.5±10%
Interfacial Tension mN/m	2.3±1
Foam Expansion at 20 ^o c	7.2±1.0 or 20%
25% Drainage Time at 20 ^o c (min)	2.5±20%
Extinguishing time (min)	≤3.0
25% Fire-Resistance Time (min)	≥10.0
Shelf life	2 years
Packing	20/25kg can, 200kg drum, 1000kg IBC tank

APPLICATION

Application: Class B fires of hydrocarbon liquid.

Description: FFFP foam contains hydrolysed protein, preservatives and fluorinated surfactants and forms film on surface of the fuel. It can be applied directly onto the fire surface and is also suitable for subsurface injection. FFFP 3% (3 parts concentrate with 97 parts water) FFFP 6% (6 parts concentrate with 94 parts water).



DESCRIPTION

•AR-FFFP is an alcohol resistant film forming fluoroprotein foam concentrate. It is consisting of hydrolysed protein hydrolysate and a blend of fluorocarbon-, hydrocarbon surfactants and polymers, various solvents and stabilisers. On hydrocarbon fuels, AR-FFFP utilises the unique film forming effect to cut off oxygen supply to the fire and the oleophobic properties of the foam enables a stable foam blanket to prevent reignition of the fire. With polar fuels, a polymeric membrane is formed that suppresses vapours and allows the foam blanket to survive on the water miscible fuel surface.

PRODUCT DETAILS

TECHNICAL DATA

Items	Standard
Proportioning rate	3% 6%
Appearance	Dark brown liquid
PH Value at 20°C	6.0-9.5
Freezing point	-10°C (adjustable)
Sediment	≤0.25
Foam expansion at 20°C	6.5±1.0 or 20%
25% Drainage Time at 20°C	8.8±20%
Extinguishing time (min)	≤3.0
25% Fire-Resistance Time (min)	≥10.0
Shelf life	2 years
Packing	20/25kg can, 200kg drum, 1000kg IBC tank

APPLICATION

Application: Class B fires of hydrocarbon and polar solvent fuel. It is typically applied to refineries, petrochemical storage facilities, offshore installations etc.

Description: (AR-FFFP) foam concentrates are ideal for extinguishing and securing flammable hydrocarbon and polar solvent liquid fires. AR-FFFP3% (3 parts concentrate with 97 parts water) AR-FFFP6% (6 parts concentrate with 94 parts water).



DESCRIPTION

- ABC powders are firefighting dry chemical powders for use against fires in fibrous materials such as paper, wood and textiles (Class A) as well as fires in flammable liquids (Class B) and flammable gases (Class C). ABC powders are mixes of finely ground solid chemicals i.e. ammonium sulphate and the active ingredient monoammonium phosphate (MAP). ABC powders are usually graded according to the content of MAP; ABC 30, ABC 40, ABC 90 and so on, where the number represent the % content of MAP. The more MAP the more efficient the powder will be.

PRODUCT DETAILS

TECHNICAL DATA

Appearance	Yellow dry powder	
monoammonium Phosphate	(20%-90%) ±3%	
Apparent density g/ml)	≥0.82	
Water	≤0.25	
Hydroscopicity	≤0.2	
Mobility	≤7	
Water repellency	No water absorption, no lumps	
Cone penetration	≥16	
Grain distribution %	0.25mm	0.0
	0.250mm-0.125mm	8±3
	0.125mm-0.063mm	18±6
	0.063mm-0.040mm	19±6
Low temperature resistance property/ S	≤5.0	
Electrical insulating property (kv)	≥5	
Packing	25kg bag, 1000kg woven bag	

APPLICATION

ABC dry chemical powder is a multipurpose chemical extinguishing powder for class A, class B, and class C fires. It is used to extinguish fires of ordinary combustible material.

Class A fire: Rubber, wood, cloth, plastic, etc.

Class B fire: Flammable liquid, oil, gas, etc.

Class C fire: Energized electric equipment.

FLUORINE FREE FOAM SERIES



LCF Fluorine Free Foam Series is composed of new environmentally friendly and fluorine-free new materials, the product is non-toxic and harmless, eco-friendly, high fire extinguishing efficiency, fire extinguishing performance is increased by 30%, it is biodegradable and contains no PFOS or PFOA. The handling of spills of concentrate or foam solutions should however be undertaken according to local regulations. Normally sewage systems can dispose foam solution

based on this type of foam concentrate, but local sewage operators should be consulted. It is in line with the phase-out and substitution of fire extinguishing technologies under the Stockholm Convention on Persistent Organic Pollutants of the United Nations Environment Programme.

- *Fluorine Free F500 foam
- *MJABP Class A foam
- *Fluorine Free Aqueous Film Forming Foam AFFF1%, 3%, 6%, 100%
- *Fluorine Free Alcohol Resistance Aqueous Film Foaming Foam AFFF/AR3%, 6%
- *Fluorine Free Synthetic Foam Alcohol Resistance S/AR3%, 6%
- *Fluorine Free Protein Foam FP/AR3%, 6%
- *Fluorine Free Synthetic Foam S3%, 6%

Full details will be found in the Material Safety Datasheet (MSDS) and Technical Data Sheet. For more detailed information please consult LCF.



EXPORTING COUNTRIES

Iran, Chad, UAE, Brazil, India, Bangladesh, South Africa, Morocco, South Korea, Japan, Yemen, Mexico, Vietnam, Pakistan, Singapore, Saudi Arabia, Iraq, Indonesia, Kenya, United Kingdom, Nigeria, Belgium, Ghana, Australia, Syria, Congo, Oman, Kuwait, Mongolia, Myanmar, Philippines, Peru, Chile, increasing...



LANGCHAO FIRE TECHNOLOGY CO.,LTD.

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
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